The Practical Models of Electronic Archiving: An Evaluation Study

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Abstract

Given the challenges the institutions that use manual archiving face from low productivity to poor provided services, there was an urgent need to transform to the electronic archiving systems. Additionally, what makes transferring to electronic archiving mandatory and having practical models of electronic archiving unavoidable is the various problems that faced the institutions during the coronavirus pandemic which highlighted the importance of studying these models. Therefore, this paper aims mainly at assessing and analyzing the studies that discussed and studied the practical models of electronic archiving to highlight the most important sides that should be studied, focus on the importance of electronic archiving by clarifying the added value it adds to the authority that applies it, and focus on the great importance represented by the studies that care about development and design. This is through identifying to what extent the care about studying these models is and identifying what has been studied regarding these models and the added value these models added to the authorities that apply them. To achieve the aim of the study, the critical appraisal methodology has been adopted and ten foreign studies were chosen and analyzed. The study reached a number of conclusions; the most significant are the notable care about the field of studying the practical models of electronic archiving and the studies' orientation towards studying the challenges more than the development and design. The electronic archiving models contributed to the development and improvement of the authorities that apply them and showed their importance and the great role they play in developing the sectors and progressing of the countries. Furthermore, they will open research perspectives to topics that have not been adequately addressed such as the effect of the practical models on developing the sectors. Moreover, the importance of the results is represented in enhancing the trends of the scientific research that care about development, design and improvement. These studies may contribute to developing electronic archiving and information management by creating new mechanisms for the electronic archiving management.

Keywords

Electronic Archiving – Electronic Archiving Models – Electronic Records Management – Electronic Documents Management - Electronic Records Management System – Effect of Electronic Archiving – Benefits of Electronic Archiving - ERMS - Record keeping system - Effect of ERMS - Benefits of electronic archiving system

1- Introduction

The need to transform from traditional archive to electronic archive is urgent, especially with big data and difficulty in controlling it. This led to decrease the productivity, reduce the quality of services, slow down the information retrieval, lose documents and destruct them, make inadequate

decisions, increase paper files, and decrease the capacity of the archive. Consequently, this forced many sectors to transform to the electronic archive to solve these problems and benefit from the advantages and benefits that are provided by the electronic archive. It is also to keep up with the technological developments as the application of electronic archive contributed to the prosperity, development, and progress of the sectors by developing the services, increasing the productivity, and other more advantages.

However, these archives need to be followed, developed, and improved continuously. Many sectors which apply the electronic archiving do not pay too much attention to the electronic archiving systems making them facing problems whether administrative problems, problems in accessibility or retrieval, or other problems. These problems emerged extensively during the Coronavirus pandemic. The study of (Netshakhuma, 2020) found that it could not be possible to access documents during the Coronavirus pandemic because there are no electronic copies of them. This is because the university archives did not manage the records due to the lack of policies and the inability to apply the Electronic Records Management System (ERMS) effectively because of the lack of budget. In addition, the study of (Kaneko, Onozuka, Shibuta & Hagihara, 2018) pointed that the implementation of the ERMS had a negative effect on the productivity of hospitals in Japan which adopted these systems recently. On the other hand, the study of (Ukata & Wechie, 2019) reflected the great positive side of the effect of applying the electronic archiving to the national development. The initiative of the researchers to design a system for the authority which has been studied in the study of (Herwahyudi, Permana, Rohmat, Hadi & Zakiah, 2020) contributed to increasing the efficiency of services and improving productivity. Therefore, the researchers had to study these models as an assessment study aiming at developing until achieving the optimum positive effect of electronic archiving that could affect the national development as in the study of (Ukata & Wechie, 2019). Thus, due to the great effect represented by these models on making a qualitative shift for the authority from all sides and not applying it properly lead to failure. The importance of paying attention to the assessment for the sake of development should be highlighted. The importance of this study came from here. Therefore, practical models of the electronic archiving should exist and they should be studied, developed, and improved. Additionally, their added value that represent themselves should be measured. This is what this study will discuss as it mainly aims at assessing the studies that studied the practical models of electronic archiving and will answer three questions: To what extent is the care about studying the practical models of electronic archiving? What are the sides did you study in these models? What is the added value that these models added to the authorities that apply it?

The answers to these questions are very important as they will contribute to studying important sides in these models which will contribute to improving and developing them and highlighting the importance of them by clarifying the effect of applying them and paying attention to them on developing the authorities that apply them. This motivates and encourages applying, developing, and paying attention to the electronic archiving field.

One of the most important reached results was paying great attention to the research field of the electronic archiving. In addition, one of the most important results was paying attention to study the challenges that face these models in the first degree, the sides of positive effect and development in the second degree and the design in the third degree. Finally, these models contributed to developing and progressing the authorities that apply them from improving the services, increasing productivity, etc.

The importance of these results is that they highlighted the importance of the practical models of electronic archiving and the great role it plays in developing the sectors and progressing of the countries. In addition, they will open up research perspectives for subjects that are not addressed adequately, like the subjects of the practical models' effect on developing the sectors and paying attention to the development of the models.

It is hoped from this study to come up with the most important sides that should be studied and highlight the importance of electronic archiving by clarifying the added value it adds to the authority that apply it. It is also hoped to come up with recommendations that break new ground in the research field and develop the practical models of electronic archiving field.

This paper contained an introduction, a methodology and results in which the previous studies are analyzed to answer the questions. Finally, there are results discussion and conclusion.

2- Literature Review

In this section, a number of studies related to the thematic area of the current study will be presented. These studies discussed the practical models of electronic archiving and cared about assessing, presenting, designing and developing the models. The presented studies were conducted during the period from 2017 to 2020. They will be presented from the most to the least recent:

The Study of Feaster, Vancour & Witherspoon (2020) This study aims at presenting a brief history of spectrum record, identifying the key differences between spectrum recordings and traditional radio recordings and identifying the technical, administrative and procedural challenges that affect preservation and access in the future. It adopted the case study methodology. A brief history of the archive has been provided and the most prominent differences in terms of the record mechanism have been addressed. In addition, the most prominent challenges have been presented.

The study of Herwahyudi, et al. (2020) This study aimed at creating a system to help employees archive documents and manage information efficiently in PT Dirgantara Indonesia Company, a company that works in the aircraft industry. It adopted the analytical descriptive qualitative method. This company created an electronic archiving system that contributed to increasing the efficiency of electronic document management.

The study of Yang, Du & Shi (2020) This study aimed at exploring the mechanisms where the record management's transformation to digital processes underlies, aiming at facilitating the assessment of the record management system's long-term performance and the efficiency of the current standards. It adopted the qualitative method. It concluded that the record management system faced several challenges, including information quality due to standards, policies and other challenges that would be discussed in detail when analyzing studies.

The study of Alokluk (2019) It aimed at studying how to organize digital archiving and manage documents at Taibah University to meet the needs of the researchers, professors, administrative personnel and students as well as guaranteeing secure data storage and access. It adopted the case study method. The study concluded that the university strategy for managing documents relies on using home and shared network drives and adopts SharePoint and OneDrive. However, it does not use a unique system for data management.

The study of Ukata & Wechie (2019) It studied the relation between electronic records and national development. It aimed at knowing how the effect of electronic records management on national development and exploring the fields where the electronic records management affected the national development in Nigeria. The study adopted the descriptive correlational method. It concluded that

there is a relation between electronic records and national development since electronic records affected the development positively.

The study of Mosweu & Kenosi (2018) It adopted the case study method. It aimed at assessing whether the implementation of the electronic court records management system at the Gaborone District, Botswana led to improvements in cases records management, as expected. The study concluded that the electronic records management system applied five years ago led to positive improvements in cases records management and service delivery.

The study of Obotu, Soloman & Ogezi (2018) It aimed at assessing digital record management system in the General Hospital Minna, studying to what extent the digital record management system applied in it, identifying its benefits, investigating the restrictions imposed on applying the system, and identifying the methods that could improve the digital record system to provide effective services. The study used the descriptive survey methodology. It concluded that the electronic records management system contributes to improving the quality of the healthcare services the hospital provides since the degree of system application is high. The study showed the benefits of applying the system as well as showing the restrictions and providing solutions to improve it that would be presented in detail when analyzing studies.

The study of Park, Burr, Slonosky, Sieber & Podolsky (2018) This study aimed at creating a DRAW project to preserve the historical records that exist in McGill Observatory, making it available to researchers and beneficiaries and presenting the main cases and challenges that have been faced, as a repository has been created to preserve the records. It discussed the project procedures related to digitization processes and the challenges faced during the digitization of documents.

The study of Pappel, Oolu, Saarevet, Lauk & Draheim (2017) It aimed at assessing the current status of digital archiving in Estonia, identifying the problems that hinder the transfer of digital documents to the national archive, and providing solutions to overcome these problems. The study revealed that transferring documents is not conducted digitally but manually. It also presented the problems that hinder this and suggested a number of solutions which would be discussed in detail in analyzing studies.

The study of Zejnullahu & Baholli (2017) The study aimed at evaluating the level of success of implementing the project of electronic document archiving system by identifying the success and failure factors of this system through using the Heeks model to analyze the design-reality gap. The results point out that the size of the gap is 18.05. If this gap is not processed, the project could partially fail. The study offered several solutions to process this gap and would be discussed in detail when analyzing studies.

3- Methodology

The study adopted the critical review method that analyzes the studies related to the thematic area of the current study. It is the "presentation and assessment of the practical models of electronic archiving" through analyzing each study alone by identifying the study objectives, the used methodology and the most important results, clarifying the points of strength and weakness in every study, assessing the consistency range between its parts, and what the value it contributes to adding to the scientific knowledge is. Moreover, it shows the similarities and differences between these studies and the current study. After criticizing, analyzing and drawing conclusions from these studies, the questions of this study will be answered through analyzing the reached results by analyzing and discussing the studies and come up with recommendations and future visions. Ten studies were checked during the period from 2017 to 2020. These studies were found by relying on

the search engines: "Google Scholar, Bing, and Microsoft Academic" and searching in the database of King Abdulaziz University, including the "Saudi Digital Library, ProQuest, Jstore, Emerald, Doaj, Ebsco, ScienceDirect Elsevier, Almanhal, Springer, Open Access Theses and Dissertation, Taylor & Francis, IEEE, and Sage journals".

4- Results and Discussion
First: Results:

In this section, ten studies conducted during the period from 2017 to 2020 and related to the thematic area of the current study will be presented and analyzed from the most to the least recent. Then, results will be analyzed to answer the study questions. The practical models of electronic archiving applied in different sectors have been chosen to measure the effect of archiving in different sectors and answer one of the questions in this study.

In the study of Feaster, et al., 2020 "The Radio Spectrum Archive: A New Approach to Radio History and Preservation," it aimed at presenting a brief history of spectrum record, identifying the key differences between spectrum recordings and traditional radio recordings and identifying the technical, administrative and procedural challenges that affect preservation and access in the future. It adopted the case study methodology since the primary origins of spectrum recordings were recorded by the radio lovers' community who were called DXing in the late 1980s and early 1990s as their recordings were the basis in the archive groups and the recording was developed by developing the techniques. In 2017, Witherspoon released Radio Spectrum Archive. Spectrum recordings differ from traditional recordings since an only individual broadcast could be recorded from one radio station at a time in traditional recording. However, spectrum recording could record a full broadband at a time and the recording can include tens of stations that broadcast at the same time. The most prominent challenges the archive face are the standards of choosing and assessing records, storage considerations, ways of describing the archive and access.

One of the points of strength in this study is highlighting archives that are not studied adequately, as far as the researcher knows, in spite of their historical significance such as the archive that has been studied. The most prominent **point of weakness** in this study is that it did not determine the data collection instrument that the study relied on in general and in identify the challenges in specific. In general, **the study achieved** all set objectives. **The scientific value** of this study is represented in enriching the content with specialized studies and defining the practical models of electronic archiving which could not be known. **This study is similar** to this current study since it studied one of the electronic archiving models. They **differ** in their objectives.

The study of Herwahyudi, et al., 2020 "E-Archive Application Based on Web (Case Study: PT Dirgantara Indonesia (Persero))" This study aimed at creating a system to help employees archive documents and manage information efficiently in PT Dirgantara Indonesia Company, a company that works in the aircraft industry. It adopted the analytical descriptive qualitative method. The prototype methodology was used in creating this system and the data base used in creating this system is MySQL. One of the achieved results is that the process of managing documents became more efficient through preserving the data of the documents digitally. Previously, the data of the documents were entered on Microsoft Excel and the documents were stored physically. In addition, the problem of accessing the archive's documents was solved since any eligible body can access the

archive instead of relying on the archivist when requesting urgent documents. Furthermore, documents were saved from the risks of damage and loss. Moreover, there is no need to have a space for physical storage. The record management process is facilitated, and the process of research and retrieval becomes easier and faster.

In this study, one of the **points of strength** is its contribution to developing the institution that has been studied an improving its performance by helping it transforming digitally through creating a system to it. **The study has achieved** all set objectives. It **added a scientific value** by presenting a simple practical model of how to build an electronic archiving system that will be of great benefit to companies that would like to create an archiving system or to researchers that would like to contribute to developing the authorities through creating systems to them. **This study is similar to** this current study in contributing to creating an electronic archiving model. They **differ** in their objectives.

The study of Yang, et al., 2020 "Exploring the Mechanisms for Record Management's Digital Transformation: A Case Study from China" This study aimed at exploring the mechanisms where the record management's transformation to digital processes underlies, aiming at facilitating the assessment of the record management system's long-term performance and the efficiency of the current standards. It adopted the qualitative method. It concluded that the record management system faced several challenges, including data quality due to standards and policies, especially the challenge represented in the integration of paper records digitization and the increasing different digital records which have multi-structure in a shared scheme. The main challenges arise from two aspects: dealing with records digitization and their administrative information and adding them to the records management system. The other aspect is the ability to manage the increasing digital records or the records created by other information systems. In addition, most functional units adopted by the electronic record management system rely on the traditional record management system. Thus, issues have emerged such as overlaps and repetitions of jobs. Furthermore, new requirements that are not considered rise whether at the technological or administrative levels because of the digital transformation.

One of the **points of strength** in this study is exploring gaps, points of weakness and challenges during the assessment process which will undoubtedly contribute to motivating the authority to process these gaps that hinder the process of digital transformation. **The study achieved** all set objectives. It **adds a scientific value** by enriching and developing the electronic archiving field through real challenges and how to process it whether at the companies or institutions levels. **This study is similar to** this current study since they both discussed one of the electronic archiving models and **they differ in** their objectives and orientations.

The study of Alokluk, 2019 "Archiving and Document Management at Taibah University: A Case Study" It aimed at studying how to organize digital archiving and manage documents at Taibah University to meet the needs of the researchers, professors, administrative personnel and students as well as guaranteeing secure data storage and access, assuming that the university has a modern complex system to manage electronic data that meet the needs of the stakeholders. The university provides an effective system to preserve electronic documents. The data management system applied in the university guarantees secure data storage and access. The study adopted the case study methodology. It concluded that the university strategy for managing documents relies on using home

and shared network drives to guarantee arrangement, storage and flow of all materials and documents used by teaching staff, researchers, students and officials in this institution. In addition, it adopts SharePoint and OneDrive. However, it does not use a unique system for data management. There is also a special system to archive electronic documents and other types of data, but this service is provided on request and is not applicable on all stored documents. However, the archiving job I partially covered through backup and advanced retrieval approved by the institution. It has pointed out that it is necessary to have more improvements to guarantee the security of document storage and access and the easy flow of the information protected by the institution.

One of the **points of strength** in this study is the reliability of the results and focusing on the negative and positive aspects and this benefits the institutions. The most prominent **point of weakness** is that the study has not suggest solutions for development and has not discussed the effect of applying this system in the university whether positively or negatively. This will add more scientific value to the study, help the university explore gaps and encourage development. In general, **this study achieved** all set objectives. **The study added a scientific value** since it will break new ground to other researchers to complete the study and study the system in depth from different perspectives. **This study is similar to** this current study since they both discussed one of the electronic archiving models. **They differ** in their objectives and orientations.

The study of Ukata & Wechie, 2019 "Electronic Records Management and National Development: A Case of Nigeria" It studied the relation between electronic records and national development. It aimed at knowing how the effect of electronic records management on national development and exploring the fields where the electronic records management affected the national development in Nigeria. The ministries that apply electronic archiving were chosen and they were seven; Education, Health, Finance, Defense, Justice, Science and Technology, and Development. It adopted the descriptive correlational method. It concluded that there is a relation between electronic records and national development since electronic records affected the national development positively. It was found that there is an improvement in the backup processes, increase in security and control, facilitation of cooperation, decrease in archiving costs, payment of electronic taxes, and an increase the efficiency of jobs. The fields that are affected positively include education, crime control, police, retail trade, health, business, banks, etc.

One of points of strength in this study is highlighting the effective role and positive effect of electronic archiving on the progress of the country. This encourages other countries to apply electronic archiving and encourage the country itself to preserve this progress and continue development. **One of the points of weakness** is relying on using the questionnaire instrument in the data collection process. In data collection, it was better, and for more accurate results, to rely on measuring achievement ratio by turning back to statistics that belong to the ministries over previous and current years and compare the service level before and after electronic archiving transformation. In general, **the methodology of the study is integrated** and achieved all set objectives. **The scientific value** in this study is represented in highlighting the issues that contribute to supporting development and progress. It is one of the important themes that require studying and focusing on nowadays. **This study is similar to** this current study since they both discussed one of the electronic archiving models and they **differ** in their objectives and orientations.

The study of Mosweu & Kenosi, 2018 "Implementation of The Court Records Management System in the Delivery of Justice at The Gaborone Magisterial District, Botswana" It adopted the case study method. It aimed at assessing whether the implementation of the electronic court records management system at the Gaborone District, Botswana led to improvements in cases records management, as expected. The study concluded that the electronic records management system applied five years ago led to improvements in cases records management and service delivery from producing reports about cases, providing the management with statistical information and data, recording all files of the cases, retrieving files becomes faster and making adjustments directly. Consequently, the time required to answer the customers' inquiries reduced and the percentage of the missing or misplaced files reduced. Therefore, this accelerated the termination of lawsuits. However, it faced some challenges, including digital cases security, records preservation and disposal, records assessment, insufficient conservation measures, training and low data flow. Thus, the system becomes slow and unavailable at certain times. There are also a shortage of computers and the standards and policies are unavailable for electronic archiving management.

In this study, **a point of strength** is using more than one data collection instruments and this makes the collected data integrated and accurate. They used observation, documents review, interview and questionnaire. One **of the points of weakness** is that the study population size is not clear. The questions of the questionnaire and interview are not mentioned as well as their nature and number. In addition, the observation instrument needs further details. In general, **the study is correlated and integrated**. It achieved all set objectives. It **added a scientific value** by enriching the intellectual production through specialized experiments in electronic archiving that encourage researchers to apply them in other authorities to contribute to improving and developing the authorities. **This study is similar to** this current study since they both studied one of the electronic archiving models. **They differ** in their objectives and orientations.

The study of Obotu, et al., 2018 "Evaluative Study of Digital Record Management System in the Hospitals in Minna Metropolis: A Case Study of General Hospital Minna, Niger State, Nigeria" It aimed at assessing the digital record management system in the General Hospital Minna, studying to what extent the digital record management system applied in it, identifying its benefits, investigating the restrictions imposed on applying the system, and identifying the methods that could improve the digital record system to provide effective services. The study used the descriptive survey methodology. It concluded that the electronic records management system contributes to improving the quality of the healthcare services the hospital provides. It is of great significance in providing medical services since the degree of system application is high. The benefits of the system are represented in its user-friendliness when records are stored, accessed and retrieved, old records are accessed right away, uniformity of models and terminology are considered, medical files and records are transferred from a department to another, networks are enabled in the organization which facilitate an effective information flow inside different units in the company, etc. However, restrictions are represented in the legal requirements such as the need of hand signature, high cost of installation, security, lack of computer operating skills among records management employees, loss of electronic records, etc. To improve the electronic records system, the system should be based on the internet network, user-friendly, etc.

One of **points of strength** in this study is that it contributes to encouraging the authority to develop and improve since it provides a number of suggestions to improve the existing system based on the

restrictions it has. However, **the points of weakness** are represented in using a closed questionnaire only in data collection as the benefits and restrictions could not be covered by using a closed questionnaire. If closed and open questions are combined, the benefits will be more and the results will be richer. In general, **the study methodology is integrated** and achieved all set objectives. **Its scientific value is represented** in benefiting the institutions if they want to transform to electronic archiving by trying to avoid the restrictions faced by the system that has been studied. **This study is similar to** this current study as both of them studied one of the electronic archiving models. **They differ in** their processing perspectives to the subject.

The study of Park, et al., 2018 "Data Rescue Archive Weather (DRAW) Preserving the Complexity of Historical Climate Data" This study aimed at creating a DRAW project to preserve the historical records that exist in McGill Observatory, making it available to researchers and beneficiaries and presenting the main cases and challenges that have been faced since a repository has been created to preserve the records. The project procedures include activities related to digitization, copy, decryption, descriptive data chart and entity chart design, and repository preparation with quality assurance since the preservation of data accuracy and credibility were one of the significant challenges that face this type of projects. So quality assurance is required in each step. In addition, capturing the accurate data values was difficult since it was taken from an unclear or encrypted handwritten texts. Furthermore, decryption problems emerged and it was difficult to read texts in unreadable pages or ink-stained areas. Moreover, lack of descriptive data and other difficulties were faced.

One of the **points of strength** in this study is that it created an integrated practical model to digitize historical records and applied it; it was not just a research proposal to create a repository. **The study achieved** all set objectives. **Its scientific value is represented in** the initiative it took, its contribution to preserving significant historical records that may benefit the research and development fields and its help to similar projects to overcome similar challenges. **This study is similar to this current study** since they both created a practical model of electronic archiving. **They differ** in their objectives.

The study of Pappel, et al., 2017 "The Digital Archiving Process in Estonia Assessment and Future Perspectives" It aimed at assessing the current status of the digital archiving process in Estonia, identifying the problems that hinder the transfer of the digital documents to the national archive, and providing solutions to overcome these problems since the function of the national archive is to preserve the memory of the society and preserve the cultural heritage to posterity. Governmental institutions transfer their records of high archival value to the national archive in no longer than ten years. The study revealed that transferring documents is not conducted digitally but manually although most electronic records management systems used UAM as part of its functions. However, it is not working properly as expected due to the organizational setup. Additionally, there is a difficulty in accepting all the digital content in the national archive since there are no uniform archiving standards among sectors as each sector develop its archiving requirements and this leads to having differences in the formats of the records. The study provided a number of solutions, including creating a center specialized in digital preservation, uniting the archiving standards of all sectors, transferring digital content to the archive regularly without waiting for years, and finally improving the process of transferring the digital content to the archive by creating interfaces between the archiving system and the sectors systems.

One of the points of strength in this study is its contribution to developing the model it has studied by exploring its problems and providing solutions. **The points of weakness** are not mentioning details about the study population and the mechanisms used in data collection. In general, this **study achieved** the set objectives. **It adds a scientific value** because it highlighted the challenges and how to deal with them and this may benefit the projects that may face similar challenges. **This study is similar to** this current study because they both discussed one of the electronic archiving models. **They differ** in their objectives.

The study of Zejnullahu & Baholli, 2017 "System for Electronic Archiving of Document in Republic of Kosovo- An Evaluation of Success Factors- Design- Reality Gap Analysis" The study aimed at evaluating the level of success of implementing the project of electronic document archiving system which is implemented when releasing the e-government initiative. The level of success of implementation will be assessed by identifying the success and failure factors of this system through seven dimensions: (information, technology, processes, objectives and values, staffing and skills, management structures and systems, and other resources). This is by using the Heeks model to analyze the design-reality gap. The results point out that the size of the gap is 18.05. The big gap is represented in processes, employees and skills, and objectives and values. The reason of the gap in the processes factor is its lack of some functions such as electronic signature. However, the reason of the gap in the objectives and values factor is that the respondents see that the system does not achieve objectives. Finally, in the employees and skills factor, they see that the number of employees is low, as shown in Figure (1).
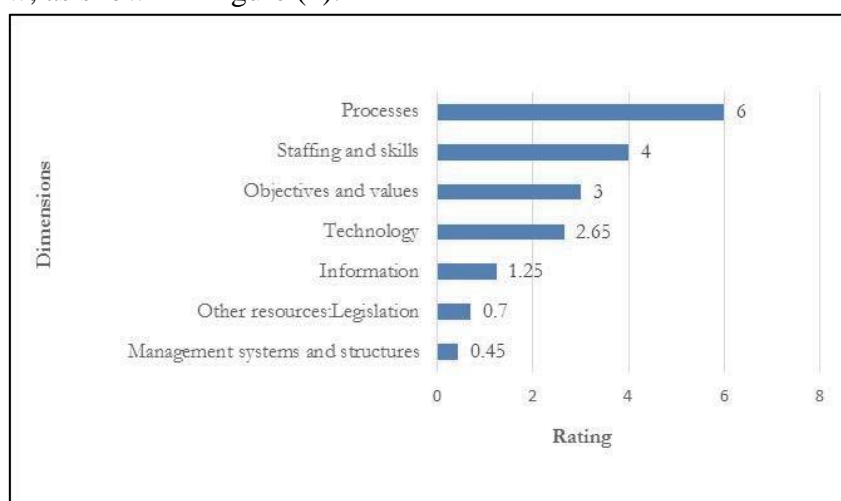
Figure (1): The Results of Analyzing the Design-Reality Gap (Zejnullahu & Baholli, 2017)

If there are no procedures taken to reduce the size of the gaps, especially in the mentioned dimensions, the risks of the project will be classified as partial failure. Recommendations have been provided to reduce the size of the gap. These recommendations have been set based on the shortcomings in these dimensions and the suggestions provided by archivists, including the recommendation of combining the electronic seal and signature in the basic uniform system since these two factors facilitate and simplify the procedures of identifying the electronic identity, the document authenticity and originality, the document's automatic seal and other recommendations that will be applied on this system.

One of the points of strength in this study is making strong recommendations and these recommendations will be taken into consideration when developing the system and reducing the gap. However, **the most prominent points of weakness** are represented in not clarifying the mechanism that the sample is chosen by. In general, **the study methodology is integrated and achieved** all set objectives. This **study adds a scientific value** by clarifying the gaps that could be faced in the electronic document management systems, especially in the developing countries. **This study is similar to** this current study because they both studied one of the electronic archiving models. **They differ** in their objectives and processing the subject.

As previously mentioned, these studies are similar to this current study because they all studied practical models of electronic archiving. This study differs because it will analyze all studies and debrief answers to the questions of this paper from the studies that have been analyzed because this paper aimed at identifying to what extent the care about studying practical models of electronic archiving is, identifying what has been studied in these models and identifying the added value these models add to the authorities that applied them. **After limitations and analysis, it was found that:**

First: To What Extent is the Care about Studying Practical Models of Electronic Archiving Is, Which is represented in the First Question:
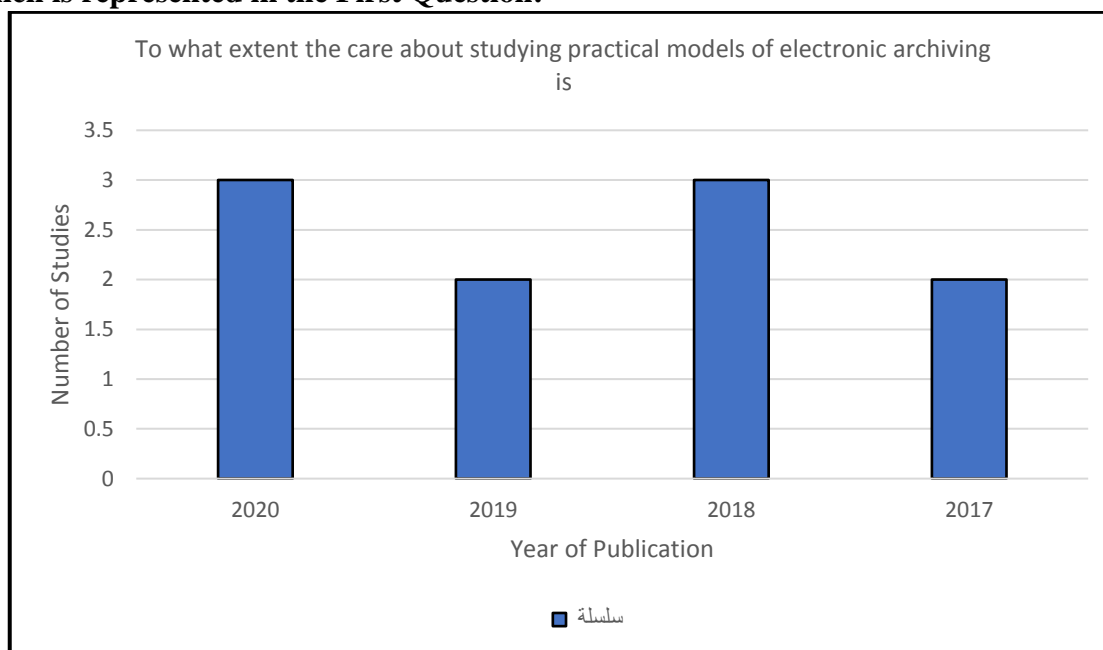
Figure (2): To what extent the care about studying the practical models of electronic archiving is

- It is noticed that there is a variation in studying the field of the models from an electronic archiving model of radio records as shown in the study of(Feaster, et al., 2020) to the archive of a company that works in the aircraft industry as shown in the study of (Herwahyudi, et al., 2020) to the national archive as in the study of (Yang, et al., 2020), (Ukata & Wechie, 2019), (Pappel, et at., 2017) and (Zejnullahu & Baholli, 2017) to the university archive as in the study of (Alokluk, 2019) to the court archive as in the study of (Mosweu & Kenosi, 2018) and to the archive of climate and weather in the study of (Park, et al., 2018).
- In addition, the modernity of the studies is noticed and this is a strong indication that the researchers care about studying this field due to the great significance it has in the fields of researches, education, health, economy, national development, etc.

- Thu study of (Feaster, et al., 2020) studied the Radio Spectrum Archive model and this model is not widely known, as far as the researcher knows, despite of its historical significance. This is also an indication that researchers care about studying this this field and defining these archives to generalize the benefits, and scientific knowledge and seek their development and improvement.
- Furthermore, the care about studying the practical models of electronic archiving by studying specialized archives is clear as in the study of (Park, et al., 2018). It created an archiving system and digitized groups to McGill Observatory for weather. It is available to all beneficiaries on the DRAW website.

Second: What has been studied in These Models, which is represented in the Second Question

Table (1): The sides that have been processed in the studies.

#	Studies	Benefits	Challenges	Development	Design	In General
1	(Feaster, et al., 2020)		▓			
2	(Herwahyudi, et al., 2020)				▓	
3	(Yang, et al., 2020)		▓			
4	(Alokluk, 2019)					▓
5	(Ukata & Wechie, 2019)	▓				
6	(Mosweu & Kenosi, 2018)	▓				
7	(Obotu, et al., 2018)	▓		▓		
8	(Park, et al., 2018)		▓		▓	
9	(Pappel, et al., 2017)		▓	▓		
10	(Zejnullahu & Baholli, 2017)			▓		
#	Total	3	6	3	2	1

- First, in Table (1), development means the studies that aimed at developing the authority, i.e. developing the existing electronic archiving system and not developing the authority by transferring from traditional archiving to electronic archiving. The latter has been classified among the studies that aimed at designing electronic archiving system.
- It is noticed that there is a great interest in the first degree in studying the challenges that are faced in the applied models such as the study of (Feaster, et al., 2020) that paid attention to study the preservation-related challenges, the study of (Yang, et al., 2020) that explored the challenges through exploring the mechanisms which are based on the process of transforming records management to digital processes, the study of (Ukata & Wechie, 2019) that paid attention to study the challenges which are faced in the national archive, and the study of (Mosweu & Kenosi, 2018) that explored the challenges through assessing the court electronic records management system. The study of (Obotu, et al., 2018) assessed the electronic records management system in hospitals based on two aspects: one of them is the challenges that are faced. The study of (Park, et al., 2018) mentioned the challenges that are faced during the digitization of documents. The study of (Pappel, et al., 2017) sought the identification of the problems that hinder transferring digital documents to the national archive. Studying the challenges is important since it provides a great help to companies to know the gaps and the problems that could be the main reason in the failure of their projects.
- In the second degree, it is followed by the studies that paid attention to studying the benefits of applying these models and seeking their development as in the study of (Obotu, et al., 2018) that is interested in knowing the benefits of applying the system and developing it through finding solutions to the challenges that have been reached, and the two studies of (Ukata & Wechie, 2019) and (Mosweu & Kenosi, 2018) which cared for measuring the benefits of electronic

archiving on the authorities that have been studied. The study of (Pappel, et al., 2017) sought the development through providing solutions to the problems that hinder transferring digital documents to the national archive. Finally, the study of (Zejnullahu & Baholli, 2017) paid attention to assessing the system through identifying the factors of success and failure by analyzing the design-reality gap to reduce the rate of the project failure and suggest mechanisms to develop it.

- In the third degree, the studies that cared for creating a qualitative movement to the authority by transforming from paper systems to electronic systems by contributing to designing its special system are represented in two studies; the study of (Herwahyudi, et al., 2020) that created an electronic archiving system to a company specialized in aircraft industry and the study of (Park, et al., 2018) that created an electronic archive concerning weather to McGill Observatory.
- Finally, in the fourth degree comes the interest in studying the models in general such as the study of (Alokluk, 2019) which is only interested in analyzing the archiving system and the documents management which was supposed to address other sides like the effect of archiving on university system and the suggestion of mechanisms to develop the system.
- In general, addressing the study of the benefits and challenges is considered a development to the organization. Highlighting the challenges helps the organization know the points of weakness and improve them. Highlighting the benefits contributes to focusing on these benefits, preserving them and improving them.

Third: The added value these models add to the authorities that apply them, which is represented in the third question:
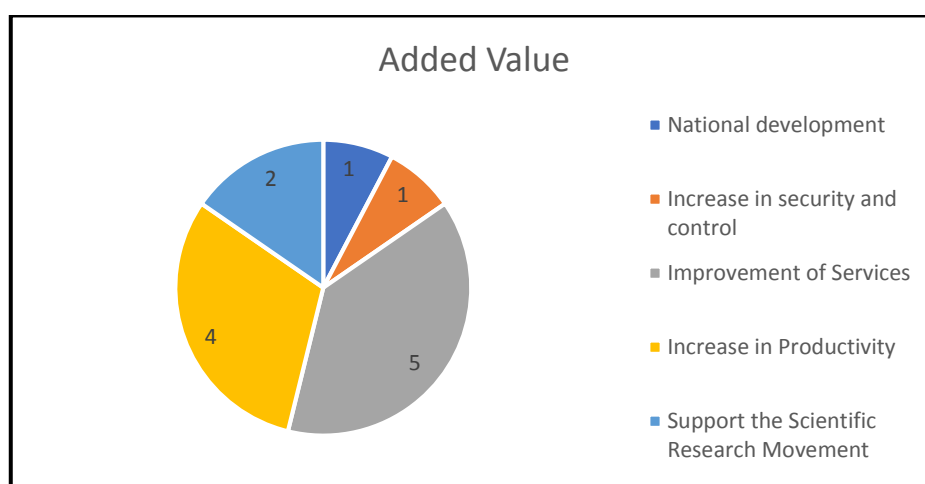
Figure (3): The added value of electronic archiving models

- It is noticed from Figure (3) that the added value the (5) studies discussed is represented in improving the services as in the study of (Herwahyudi, et at., 2020) in which their electronic documents' management becomes more efficient. In addition, the archive is accessible by all eligible employees and has a speed in searching and retrieving. The study of (Alokluk, 2019) improved their services in the processes of organization, storage and backups. The study of (Ukata & Wechie, 2019) represents the improvement in backups, the increase in the efficiency of functions and the facilitation of cooperation. In the study of (Mosweu & Kenosi, 2018), the services have been improved by reducing the rate of missing files, retrieving in record time and adjusting directly. Finally, the study of (Obotu, et al., 2018) which electronic archiving

contributes to improving their services in terms of storage, retrieval, user-friendliness, accessibility to old records and easiness of information flow.

– This is followed by the increase in productivity which is addressed by (4) studies by reducing costs in the study of (Ukata & Wechie, 2019), reducing the time spent in providing services and the ability to produce reports and statistical data quickly in the study of (Mosweu & Kenosi, 2018). The easiness of transferring files and the quickness of information flow is presented in the study of (Obotu, et al., 2018). The quickness of retrieving urgent files is represented in the study of (Herwahyudi, et al., 2020).

– The models contributed to supporting the movement of scientific research and two studies have discussed this. It is represented in the Radio Spectrum Archive in the study of (Feaster, et al., 2020). Its added value in the field of scientific research is represented in having historical records that benefit the researchers who conduct researches on events happened during a specific duration of time. It also benefits students and historians (The Radio Spectrum Archive). In addition, DRAW Archive which was created in the study of (Park, et al., 2018) form a great significance in the field of scientific research to track a particular environmental phenomenon and know the historical information related to it and study it.

– The increase of the security and control was mentioned in only one study which is the study of (Ukata & Wechie, 2019).

– Finally, the national development was achieved by the electronic archiving model of the study of (Ukata & Wechie, 2019).

– In general, it is noticed that electronic archiving contributed to the growth and prosperity of the authorities that apply it. The growth of the authorities contributes to the growth and prosperity of the country itself. So it can be said that all electronic archiving models contributed to the national development.

– Additionally, the electronic archiving contributed in general to the development of the scientific research field. The relation between electronic archiving and scientific research is mutual since the electronic archiving models encouraged researchers to conduct researches using these models and develop them, thus developing the models and activating the movement of the scientific research and enriching it.

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Second: Discussion:

The study targeted monitoring the studies that discussed the practical models of electronic archiving to identify to what extent the care of studying the practical models of electronic archiving is, identifying what has been studied in these models and identifying the added value these models add to the authorities that applied them. The following results have been concluded:

– It is clear that there is a great interest and orientation towards studying the practical models of electronic archiving as it is noticed that there are many studies in the field and a variety of studied models' fields from national electronic archiving models, such as the studies of (Yang, et al., 2020), (Ukata & Wechie, 2019), (Papple, et al., 2017) and (Zejnullahu & Baholli, 2017) to a hospital such as the study of (Obotu, et al., 2018) to a court as in the study of (Mosweu & Kenosi, 2018) to a university such as in the study of (Alokluk, 2019) to radio archive such as the study of (Feaster, et al., 2020) to weather archive such as the study of (park, et al., 2018) and to the archive of a specialized company such as the study of (Herwahyudi, et al., 2020).

– After analyzing studies, there is a great interest in studying the challenges in (6) studies, followed by caring of studying the benefits in (3) studies and the development in (3) studies. However,

paying attention to design is in only two studies. Finally, studying the models in general is in one study.

– The applied practical models of electronic archiving contributed to adding a value represented in the first degree in services improvements as in the studies of (Herwahyudi, et al., 2020), (Alokluk, 2019), (Ukata & Wechie, 2019), (Mosweu & Kenosi, 2018) and (Obotu, et al., 2018), then the increase of productivity as in the studies of (Herwahyudi, et al., 2020), (Ukata & Wechie, 2019), (Mosweu & Kenosi, 2018) and (Obotu, et al., 2018), followed by the support of the scientific research movement in the studies of (Feaster, et al., 2020) and (Park, et al., 2018), then the increase of security and control as in the study of (Ukata & Wechie, 2019) and finally the national development in the study of (Ukata & Wechie, 2019).

The reached results were expected in terms of paying attention to the study of the practical models of the electronic archiving due to the effective and great role the electronic archiving play nowadays and also the added value that the models added to the authorities that apply it. Nevertheless, **it was not expected** that the sides which were paid attention to study them were represented in the challenges. That is because highlighting the studies of development and design is more important than presenting the challenges because it will represent a greater benefit to the authority, even if the studies of challenges and development are combined, such as suggesting effective, real, modern and creative solutions to face these challenges and not being satisfied with just mentioning them.

One of the most prominent problems that were faced was the absence of integrated methodologies in published studies. One of the most prominent difficulties is finding a study with an integrated methodology. The studies in this thematic area are many, but the studies with integrated methodologies are few.

Conclusion

This study aimed at identifying to what extent the care of studying the practical models of electronic archiving is, identifying what has been studied in these models, and identifying the added value these models have added to the authorities that have applied them. The following points have been concluded:

– The positive and great care and orientation towards studying the practical models of electronic archiving.

– The care of exploring restrictions, challenges and obstacles as they are significant sides that contribute to improving the authority and developing it and provide a living experience to other authorities to avoid these negative effects.

– In the second degree, there is care of studying and measuring the positive effect based on applying electronic archiving. It is one of the sides that is important to be highlighted and studied because it is considered a motivator to continue the progress of the authority. It encourages other authorities in the process of transforming to electronic archiving.

– Additionally, in the second degree, there is care of the studies that care for developing these models. These studies are considered as significant studies and should be cared of in the first degree because they provide solutions, mechanisms and suggestions for development rather than being satisfied with measuring the benefits and discovering obstacles.

– In the third degree, there is care of studies that aim at designing systems and helping authorities to digital transform. These are from the studies that should be cared of in the first degree since

they form a total turning point to the authority and contribute to its development. It could have an effect on national development and economy.

– Weak care of studies that are based on studying the models in general.
– The practical models of electronic archiving in the national development and sectors development contribute to improving services, increasing productivity, increasing security and control and supporting scientific research.

This study represents scientific addition by focusing on the significance of the practical models of electronic archiving and the big role they play in developing the sectors and progressing of the countries. In addition, it represents scientific addition by the recommendations it has. It will break new ground to subjects that have not been sufficiently tackled before as far as the researcher knows.

The study came up with the following recommendations:
– Paying attention to studying the effect of these models on development whether the development in general or economic development, etc.
– Paying attention to studying the effect of these models on the technical progress of the sectors or countries.
– The necessity of paying attention to studying the role of the electronic archiving models in dealing with crises and disasters and the extent of their effect.
– When studying results, it is recommended to focus on developing these models by exploring problems and solving them or introducing new techniques that contribute to increasing its efficiency, etc.
– The necessity of paying attention to support the progress and development of the authorities through the initiative of conducting researches by researchers and specialists to create electronic archiving systems to these authorities that still rely on paper archives and not just providing a proposal that might be applied or not.
– When conducting studies about the practical models of electronic archiving, it is preferable to use data collection instruments other than the questionnaire or use an additional instrument with it. The results of the questionnaire are not always accurate and their accuracy depends on the reliability and credibility of the sample's answers. Therefore, relying on other instruments is preferable to come up with accurate and reliable results.

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